DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: MARSHALL PON)	Lake Area (ha):	5.26
Town: UNITY		Maximum depth (m):	3.9
County: Sulli	/an	Mean depth (m):	2.1
River Basin: Conne	cticut	Volume (m³):	109500
Latitude: 43°18		Relative depth:	1.5
Longitude: 72°16	'17" W	Shore configuration:	1.72
Elevation (ft):	1630	Areal water load (m/yr)	: 4.04
Shore length (m):	1400	Flushing rate (yr^{-1}) :	1.90
Watershed area (ha	: 44.0	P retention coeff.:	0.69
% watershed ponded	0.0	Lake type: natura	l w/dam

BIOLOGICAL:	24 January 1995	31 August 1994
DOM. PHYTOPLANKTON (% TOTAL) #:	DINOBRYON 45%	CHRYSOSPHAERELLA 25%
#2	TABELLARIA 40%	PERIDINIUM 20%
#:		STAURASTRUM 15%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		3.98
DOM. ZOOPLANKTON (% TOTAL) #3	KERATELLA 42%	KERATELLA 50%
#2	ASPLANCHNA 29%	NAUPLIUS LARVA 19%
#:		POLYARTHRA 17%
ROTIFERS/LITER	153	145
MICROCRUSTACEA/LITER	<1	47
ZOOPLANKTON ABUNDANCE (#/L)	172	197
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		3.9 Visible on bottom
BOTTOM DISSOLVED OXYGEN (mg/L)	10.6	8.6
BACTERIA (E. coli, #/100 ml) #:	-	
#2		
#:	3	

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m³): None Anoxic volume (m³): None

CHEMICAL: Lake: MARSHALL POND Town: UNITY					
	24 January 1995		31 August 1994		
DEPTH (m)	1.0	3.0	1.0		3.0
pH (units)	5.6	5.6	6.1		5.9
A.N.C. (Alkalinity)	0.8	0.8	1.0		0.7
NITRATE NITROGEN	0.08	< 0.10	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	< 0.10	< 0.10	0.14		0.43
TOTAL PHOSPHORUS	0.012	0.008	0.016		0.036
CONDUCTIVITY (µmhos/cm)	17.3	22.1	20.1		20.1
APPARENT COLOR (cpu)	8	11	15		16
MAGNESIUM			0.54		
CALCIUM			1.1		
SODIUM			0.6		
POTASSIUM			0.29		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	4	7	4		5
TN : TP			9		12
CALCITE SATURATION INDEX			5.2		

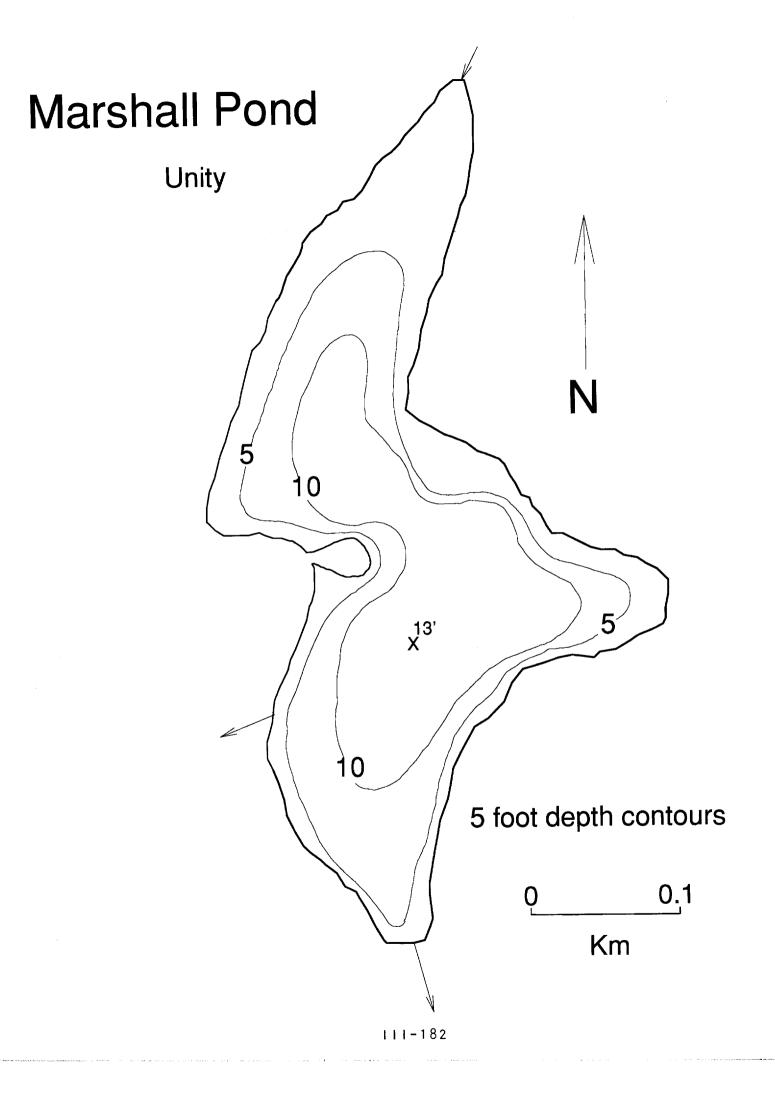
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1994

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	1	3	0	4	Oligo.

COMMENTS:

- 1. This is a former water supply to the county farm. It is remote and was sampled jointly with the NH Fish and Game Department.
- 2. It is a small, shallow, somewhat acid pond with clear water, low conductivity and poor buffering capacity (low ANC).
- 3. The water level was about 1 to 1 1/2 feet below the high water mark at the time of the summer sampling.



FIELD DATA SHEET

LAKE: MARSHALL POND TOWN: UNITY

DATE: 08/31/94 WEATHER: OVERCAST & CALM; EARLY SHOWERS

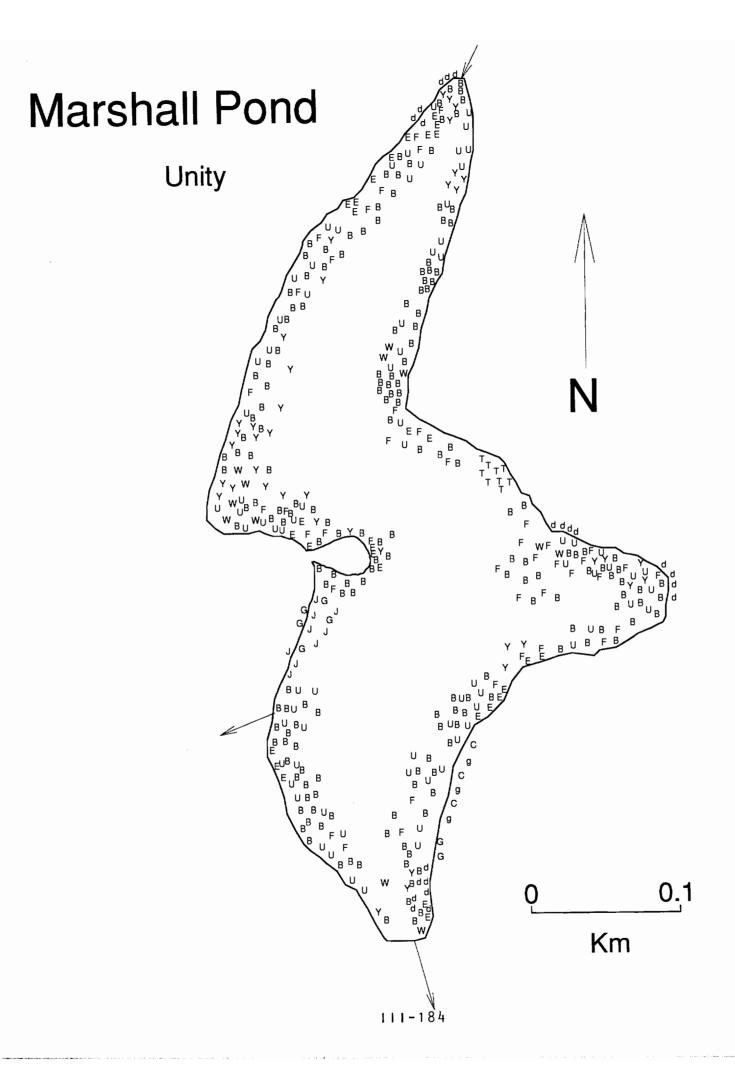
DATE: 08/31/94	WEAT	ER: OVERCAST & CALL	M; EARLI SHOWERS
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	19.5	9.0	97 %
0.5	19.5	9.0	97 %
1.0	19.5	8.9	94 %
1.5	19.5	8.9	94 %
2.0	19.3	8.8	93 %
2.5	19.2	8.7	93 %
3.0	19.2	8.7	93 %
3.5	19.0	8.6	92 %
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SECCHI DISK (m): 3.9 VOB COMMENTS:

BOTTOM DEPTH (m): 3.9

TIME: 1115

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

TOWN: UNITY

Key	PLANT	ABUNDANCE	
	GENERIC	COMMON	ABUNDANCE
В	Brasenia schreberi	Water shield	Common
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Key	PLANT	ABUNDANCE	
veA	GENERIC	COMMON	ADONDANCE
В	Brasenia schreberi	Water shield	Common
d	Dulichium arundinaceum	Three-way sedge	Scattered
F	Nymphoides cordatum	Floating heart	Scat/Common
E	Eriocaulon septangulare	Pipewort	Sparse
С	Chamaedaphne calyculata	Leatherleaf	Common
Y	Nuphar	Yellow water lily	Common
W	Potamogeton	Pondweed	Common
บ	Utricularia	Bladderwort	Common
g	Myrica gale	Sweet gale	Common
G	Gramineae	Grass family	Sparse
J	Juncus	Rush	Sparse
т	Typha	Cattail	Sparse
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OVERALL ABUNDANCE: Common

DATE: 08/31/94

GENERAL OBSERVATIONS:

LAKE: MARSHALL POND

- 1. Bladderwort was on the pond bottom along the entire shoreline.
- 2. Schools of fingerlings were observed swimming amongst the bladderwort.